



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,606	04/02/2001	Daniel M. Saban	03-SM-6723	3019

7590

06/04/2003

John S Beulick
Armstrong Teasdale
Suite 2600
One Metropolitan Square
St Louis, MO 63102

EXAMINER

CUEVAS, PEDRO J

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,606

Applicant(s)

SABAN ET AL.

Examiner

Pedro J. Cuevas

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed September 5, 2002 have been fully considered but they are not persuasive.
2. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the purpose of using the teachings of Berger on the rotor of Hibino et al. is clearly stated in column 2, lines 34-37 of Berger's disclosure and it is not merely an examiner's "conclusory statement".
3. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,182,483 to Hibino et al. in view of U.S. Patent No. 5,637,943 to Berger.

Hibino et al. disclose the construction of a rotor core (16) comprising:

a plurality of rotor laminations (17), each of said laminations having an outer periphery;

a first set of rotor laminations (C_A) comprising a plurality of slots (2) having skew portions (2_b) extending in a first direction (Figure 3); and

a second set of said rotor laminations (C_B) comprising a plurality of slots (2) having skew portions (2_b) extending in a second direction (Figure 3).

However, it fails to disclose the construction of a rotor core having:

a plurality of notches having an open end at said outer periphery;

a rectangular or irregular cross sectional shape, extending axially with respect to a center axis of said rotor core and along an entire length and several portions of said core; and

substantially aligned radially and coextensive radially with at least one of said skew portions.

Berger teach the construction of a rotor core having a plurality of notches (Figure 1) having:

an open end at said outer periphery;

a rectangular or irregular cross sectional shape, extending axially with respect to a center axis of said rotor core and along an entire length and several portions of said core; and

substantially aligned radially (the notches are present over the notches and having a substantial clearance, separation, and alignment) and coextensive radially (they do have a width that extends in the radial direction) with at least one of said skew portions, for the purpose of producing of a groove shape for a squirrel-cage rotor which retains the conductor rod in a fixed position and thereby prohibits, with certainty, any imbalancing.

It would have been obvious to one skilled in the art at the time the invention was made to use the notched laminations disclosed by Berger on the rotor core disclosed by Hibino et al. for the purpose of producing of a groove shape for a squirrel-cage rotor which retains the conductor rod in a fixed position and thereby prohibits, with certainty, any imbalancing.

6. With regards to claim 6, Berger discloses a rotor core wherein a bridge of lamination material extends between a notch and a respective slot as shown in Figure 1.

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,182,483 to Hibino et al. in view of U.S. Patent No. 5,637,943 to Berger as applied to claims 1-6 and 9-12 above, and further in view of U.S. Patent No. 6,369,686 to Pielok.

Hibino et al. in view of Berger disclose the construction of a rotor core as described above.

However, it fails to disclose a rotor core wherein no bridge of lamination material extends between at least one of said rectangular cross sectional shape notches and a respective one of said slots.

Pielok teach a rotor core wherein no bridge of lamination material extends between at least one of said rectangular cross sectional shape notches and a respective one of said slots for the purpose of providing laminations aligned in such a way that an automatic winding process can be performed through the respective winding openings as shown by Figures 1a and 1b.

It would have been obvious to one skilled in the art at the time the invention was made to use the lamination configuration disclosed by Pielok on the rotor core disclosed by Hibino et al. in view of Berger for the purpose of providing laminations aligned in such a way that an automatic winding process can be performed through the respective winding openings.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,182,483 to Hibino et al. in view of U.S. Patent No. 5,637,943 to Berger as applied to claims 1-6 and 9-12 above, and further in view of U.S. Patent No. 4,616,151 to Pryjmak.

Hibino et al. in view of Berger disclose the construction of a rotor core as described above.

However, it fails to disclose a rotor core further comprising a third set of rotor laminations.

Pryjmak teaches the construction of a rotor core comprising a third set of rotor laminations (Figures 1 and 2) for the purpose of providing a scattering of the magnetic forces across the field and case structure in such a way as to reduce excitation of the resonant modes of the case.

It would have been obvious to one skilled in the art at the time the invention was made to use the third set of rotor laminations disclosed by Prymak on the rotor core disclosed by Hibino et al. in view of Berger for the purpose of providing a scattering of the magnetic forces across the field and case structure in such a way as to reduce excitation of the resonant modes of the case.

9. Claims 14-17 and 19-23 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,182,483 to Hibino et al. in view of U.S. Patent No. 5,637,943 to Berger as applied to claims 1-6 and 9-12 above, and further in view of U.S. Patent No. 5,010,266 to Uchida.

Hibino et al. in view of Berger disclose the construction of a rotor core having:

- a central rotor shaft opening;

- a rotor shaft (19) having an axis which is coaxial with a rotor core axis of rotation and extending through said central rotor shaft opening; and

- a plurality of secondary conductors extending through said slots.

However, it fails to disclose a plurality of permanent magnets located in lamination notches.

Uchida teach the construction of a rotor of synchronous motor having a plurality of permanent magnets (38a) located in lamination notches for the purpose of forming projection and recesses at the ends of each unitary rotor element.

It would have been obvious to one skilled in the art at the time the invention was made to use the rotor construction disclosed by Uchida on the rotor core disclosed by Hibino et al. in view of Berger for the purpose of forming projection and recesses at the ends of each unitary rotor element.

10. With regards to claim 21-23, Hibino et al. disclose an electric motor having a stator comprising:

a stator core forming a stator bore (Figure 9);

first and second main windings configured to form a lower number of poles than said second main winding; and

a rotor as described above.

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,182,483 to Hibino et al. in view of U.S. Patent No. 5,637,943 to Berger, further in view of U.S. Patent No. 5,010,266 to Uchida as applied to claims 14-17 and 19-23 above, and further in view of U.S. Patent No. 6,369,686 to Pielok.

Hibino et al. in view of Berger in view of Uchida disclose the construction of a rotor core as described above.

However, it fails to disclose a rotor core wherein no bridge of lamination material extends between at least one of said rectangular cross sectional shape notches and a respective one of said slots.

Pielok teach a rotor core wherein no bridge of lamination material extends between at least one of said rectangular cross sectional shape notches and a respective one of said slots for the purpose of providing laminations aligned in such a way that an automatic winding process can be performed through the respective winding openings as shown by Figures 1a and 1b.

It would have been obvious to one skilled in the art at the time the invention was made to use the lamination configuration disclosed by Pielok on the rotor core disclosed by Hibino et al.

in view of Berger for the purpose of providing laminations aligned in such a way that an automatic winding process can be performed through the respective winding openings.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (703) 308-1371. The fax phone numbers for

Application/Control Number: 09/806,606
Art I Init: 2834

Page 9

the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
May 22, 2003

